

W1FMR COPY

DECEMBER / JANUARY 1992-1993

72

THE "QRP - NE" NEWSLETTER



IN THIS ISSUE:

PRESIDENTS MESSAGE DE W1FMR	PAGE 1
QRP-NE WINTER SPORTS	PAGE 1
QRP-NE STRAIGHT KEY NIGHT	PAGE 2
JANUARY 16TH MEETING AT ARRL HQ!	PAGE 2
RENEWAL INFORMATION	PAGE 2
TECHNICAL ARTICLES	PAGES 4-6
MEMBERS NEWS	PAGES 6+7

*AND MORE....*

***HAPPY HOLIDAYS AND GREAT QRP IN 1993!***

## PLEASE WRITE FOR 'YOUR' NEWSLETTER

Our goal is to make it easy for you to submit your ideas. Send your material, hand written or typed. Please indicate whether or not you wish other newsletters and magazines to copy your article. Floppy diskettes, MS-DOS text files accepted gladly, any size any density. Be sure and send your phone number so that I may contact you. If you have a FAX # please let me have that too. My address is: Carl Heidenblad, N1CUU, 40 Martins Ferry Rd., Hooksett, NH 03106. My work phone number is 603-432-7154. My home phone is 603-647-9864.

**Technical articles should be sent to John Collins, KN1H, QRP-NE Technical Editor.**  
Please contact John with questions or concerns about articles of a technical nature.

**Deadline for the next newsletter will be FEB. 28, 1993!**

### DIRECTORY

Please Contact the following for information:

**MEMBERSHIP-**

Harry J. McDade, W1LMU  
194 Winslow Road, Waban, MA. 02168

**CONTEST MANAGER-**

Jim Kearsman, KR1S, 83 main Street, Apartment 13D, Newington, CT 06111-1330  
203-666-1541 x 279

**TREASURER-**

Paul Kranz, W1CFI, 26 Mettacomett Path, Harvard, MA 01451. 508-687-1501 x 2604.  
Fax 508-687-7265.

**TECHNICAL ARTICLES --**

John Collins, KN1H, RR2, Box 427, Cornish, NH, 03745. 603-542-2057.

**NETS--**

GREG ALGIERI, WA1JXR, 22 Chacehill Rd., Lancaster, MA 01523.  
(508) 365-7128.

**MEMBERSHIP NEWS--**

William Legge, NT1R, 232 Foreside Rd., Cumberland, ME 04110. (207) 829-5248.

**NEWSLETTER --**

Carl Heidenblad, N1CUU, 40 Martins Ferry Rd. Hooksett, NH 03106. 603-647-9864.

**OTHER CLUB MATTERS, ADMINISTRATION, ETC.**

Jim Fitton, W1FMR, POB 2226, Salem, NH 03079. 603-898-6188H  
508-960-2577 W

**FROM THE PRESIDENT****HAPPY BIRTHDAY QRP-NE!**

This year, on December 17, we celebrate the first birthday of QRP-NE. Best wishes and great expectations for QRP-NE in the New Year !

Looking back, we had many fine accomplishments.

166 Great new members !  
 5 Great issues of "72"  
 A QRP-NE Transmitter Kit Project  
 1 Hell of a Field Day !  
 50 SSB nets  
 Met at the League and operated W1AW/QRP !  
 Became \$0 In Debt !  
 A QSO Party  
 Many fine technical articles  
 2 QRP Forums and info booth at ARRL-Boxboro  
 Information booths at many hamfests

Stay tuned for 1993 :

More "72"  
 A companion receiver kit for the Colorburst Transmitter  
 Meet at the League and operate W1AW/QRP !  
 Booth and Forums - ARRL, New Hampshire Convention  
 80m SSB nets  
 an even more spectacular FD  
 QRP-NE Winter Sports, 12/25/92 - 1/1/93  
 QRP-NE SKN, 7 - 10 pm, 1/1/93 !  
 More Technical articles  
 More HB  
 More friendship

**THANKS DUE TO:**

Thanks to Jack, NG1G for his excellent work as membership manager and for designing our highly acclaimed logo. Jack dropped out for personal reasons, and we miss him.

QRP-NE now welcomes our new membership manager, Harry McDade, W1LMU. Harry has been one of the greatest supporters of QRP-NE, and we all wish him well in his new position.

In order to make the finances come out right, we had to raise the dues to \$7 (\$10 to join). We regret the increase but were losing money on each issue as 72 is bigger and better than we had planned.

Thanks ! To the Editor, Staff and Managers of QRP-NE for an excellent job, great cooperation and tremendous fun in 92.

**THE EXCITEMENT IS BUILDING !**

*Jim, W1FMR*

**NEWSFLASH!  
 QRP-NE ANNOUNCES TWO  
 OPERATING EVENTS!**

The first QRP-NE Winter Sports event, corresponds partly with the European QRP Winter Sports activity, and the QRP-NE Straight Key Night (SKN) activity corresponds partly with the ARRL SKN on January 1.

**Event #1 - QRP-NE WINTER  
 SPORTS**

Dates - December 25, through Jan. 1, 1993  
 Frequencies - 3.560 Mhz and 7.040/7.030 Mhz, +/- QRM.  
 Times - Each day, From 0000 - 0300 UTC (7 - 10 pm EST)  
 Calling Schedule - 40m on the hour, 80m on the half hour.  
 Call - "CQ CQ QRP NE"  
 Exchange - #QSO, RST, QTH, Name, QRP-NE #,  
 i.e..... 07 559 CT JIM NE 16

The object is to see how many club members you can contact during this time period.

**EVENT #2 - SKN.**

The second event is a Straight Key event. Use your club project kit transmitter and colorburst crystal frequency.

Event #2 - QRP-NE STRAIGHT KEY NIGHT (SKN)

Date - Jan. 1

Time - From 0000 - 0300 UTC (7 - 10 pm EST)

Frequency - 3.579 (Colorburst)

Call - "CQ CQ QRP NE SKN"

Exchange - #QSO, RST, QTH, Name, QRP-NE #,  
i.e..... X07 559 CT JIM NE 16

If you use Xtal control, prefix your QSO # with the letter X.

(KN1H talked at Boxboro on how to add VXO to the club kit xmtr.)

Contact as many members as possible and send separate logs for each event, by Jan. 9th., to:

**CONTEST MANAGER**  
**Jim Kearman, KR1S**  
**83 Main St. Apt. 13 C**  
**Newington, CT 06111**

**QRP SPECIAL EVENT STATION**

Look for special event station GB0QRP (G4BUE/QRP) during the EU QRP Winter Sports event, 12/25/92 thru 1/1/93.

Last year, some club members worked Chris on all 8 bands !

**JANUARY 16TH MEETING AT ARRL HQ!**

A meeting of the QRP Club of New England (QRP-NE) will be held on January 16, 1993, from 10:00 until 4:00 pm. Doors will open at 9 am, and the meeting begins at 10:00. We will send out for pizza at noon and operate W1AW/QRP from around 2 - 4 pm.

For further information, call Jim Fitton, W1FMR at 603-898-6188, or check into the QRP-NE SSB NET, Monday evenings from 9 - 10 pm, around 3.585 Mhz.

**RENEW NOW !**

The cost to join or renew membership in QRP-NE has increased. Also we are changing to "Once a Year" renewals. For 1993, the cost to join QRP-NE will be \$10 and the cost to renew will be \$7. All memberships now come due between January and March 1. That means that if you do not renew by March 1st, you will miss the March issue of "72". If your mailing label has a "92" on it, you are due for renewal. If your mailing label has a "93" on it, you are OK for 1993.

**REMEMBER QRP-NE SSB  
NET, MONDAY  
EVENING, 9:00 PM  
LOCAL AT 3855 Khz +/-  
QRM.**

## EDITORS NOTE:

WIFMR brought the following items to my attention. They are circulating on many of the packet bulletin boards. I thought they were worth running, as I have seen in the QRP Quarterly and other publications articles/letters asking "Why Run QRP?"

Obviously, each operator will have his or her own reasons for approaching the radio hobby QRP style. The following are two diametrically opposed views of QRP contesting and operating!

**N2IC 12/1/92**

Since the subject of /QRP has come up, I can't help but to go on a tangent.

Back in the good old days of contesting, we went out of our way to be as LOUD as possible. We took pride in tweaking our antennas for the last tenth of a dB. Even if all we had was an attic dipole, we moved it another foot away from the house wiring. If we had an amplifier, we didn't hesitate to use it.

Suddenly, QRP categories have come into vogue. We think we are making great accomplishments by tormenting everyone else with our puny signals - which are puny only by our choice.

Why ????? Do we feel that there is no sense competing in the same category as the high power stations and their megabuck antenna farms? I know TVI/RFI is a pain, but virtually everyone I know can run 100+ watts before that gets to be a serious problem.

I would really like to see the QRP categories eliminated. Let's add categories based on maximum antenna height and/or boom length. Let's use peer pressure to keep top contesters from intentionally handicapping themselves with poorer antennas than they are capable of having. We need to improve the state-of-the-art, and not stagnate just so we can win a certificate in a category that is below our potential.

*Steve, N2IC/0*

**K1TR 12/4/92**

I don't share Steve, N2IC's, preference for eliminating the QRP categories. I have listed what appear to be Steve's reasons for elimination followed by my comments.

1. (QRP operators have a sense of great accomplishment by tormenting everyone else with puny signals.)

I have worked a few contests in the QRP category (mostly SS) and have never felt this way. My goal has always been to optimize my score. What would be served by tormenting operators, thereby jeopardizing potential QSO points? If I can't work them with a couple of calls I try later.

2. (Do we feel there is no sense in competing with the same category as the high power stations?)

Without categories for different power levels, stations running less than full power, feeling that they can't really compete with those running QRO, won't bother to put in a full time or serious effort. This will obviously result in reduced overall participation and lower QSO totals for everyone, including those running full power.

3. (I know TVI/RFI is a pain, but virtually everyone I know can run 100+ Watts before that gets to be a serious problem.)

You seem to be advocating running as much power as possible until it becomes a "serious problem". TVI/RFI is a function of many variables including power. The affects on neighbors and families, and ultimately the Ham Operator, are subjective and therefore vary widely. One person's notion of a minor nuisance is a serious problem for another. What is wrong with running a power level capable of spanning the globe while having no effect on your neighbor's electronics?

4. (Lets use peer pressure to keep top contesters from intentionally handicapping themselves with poorer antennas than they are capable of having.)

K1TR continues...

I don't think that this is any way to make friends at your next club meeting. Furthermore, I know of no "top contesters" who intentionally choose a weaker smaller antenna over a louder one without having first drunk a few to many...

5. (We need to improve the state-of-the-art, and not stagnate just so we can win a certificate in a category that is below our potential.)

You are inferring that QRPers and others who aren't competing in the unlimited category are not furthering the state-of-the-art. The 25 dB that separates the QRPer and the high power station is generally derived from technology that is at least 20 years old. With the exception of fast band changing and auto-tuning, which the QRPers have had for many years, there hasn't been fundamental change in commercial amateur radio amplifier technology in this time frame. In the other aspects of operation; computer applications, antennas, high performance radios, operator skill, etc., serious QRP contesters are not behind their QRO brethren. If anything, to overcome the 25 dB, they work especially hard at optimizing the systems and skills they have to work with.

-Ed, K1TR

**FROM KN1H,  
JOHN COLLINS, TECHNICAL  
EDITOR**

**Tom Cooper, WA1GUV** sent the following items which he felt might prove to be of interest and useful to the QRP-NE membership:

1. Older Ten-Tec radios with audio derived AGC (Triton; Omni A,B,C.; Argonaut 505/509; Delta 580; Corsair; etc.) "popped" on strong signals. I have had some discussions with W3TS about this and have a couple of suggestions for hams with tender ears.

Replacing the electrolytic AGC charge capacitor with a tantalum cap of the same value helps some. Putting a 1uf tantalum paralleled

by a 1k resistor in series with the charge cap makes quite a large difference. This was done in the old Atlas radios. [Please see sketches:]

2. The audio filter in these same Ten-Tec radios was centered at 750 Hz. This is too high for me. Changing the .0022uf capacitors to .0027uf, with no other component changes, moves the center frequency to 600 Hz. The BFO should be re-tuned for a 600 Hz. offset on CW receive. The manual tells how to do this.

3. If you are using an end fed wire more than 1/4 wave long, you can get on bands that wouldn't tune or in a pinch use no tuner at all (but with a poorer signal!). Wire a resistor from the radio end of the wire to ground. This is about all you get in a Maxcom "tuner" and it is surprising how little it affects your ability to get out! I added a switch to my AEA QT-1 tuner to switch the dummy load in and out like this [Please see sketch:] and it makes it possible to use some wires that would not load previously.

4. The August 1992 QST article "High Performance Direct Conversion Receivers" describes several passive audio filters. I built the low pass filter with the 1000 Hz. cutoff using parts from Mouser Electronics (Tel. 800-346-6873). The inductors were cheaper (by a bundle) than those from Digikey. I built the filter using "ugly construction on a piece of PC board, and added a switch and compensating resistor to allow it to be switched out of the circuit without changing the volume control. I just plug it into the phone jack. It is really a great filter, with no ringing, and it gets rid of all the hiss and other high frequency garbage. The Mouser parts list follows:

MOUSER P/N	DESC.	QTY.	COST
434-03-104J	100mH	3 @	\$1.18 3.54
23ME322	.022uF	1	.31
23ME368	.068uF	1	.36
23ME410	.1uF	1	.36
23ME468	.68uF	1	.64
146-250V.56K.	.56uF	1	.42
140-PF21394J.	.39uH	2 @	.47 .94

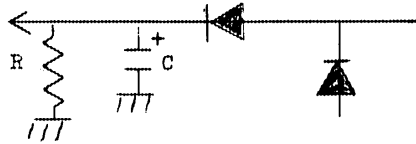
TOTAL=\$6.52

**Suggestions from:**

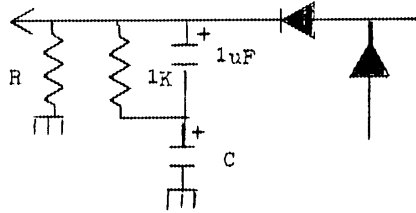
Tom Cooper, WA1GUV  
20 Catherine Street  
Burlington, VT 05401

1.

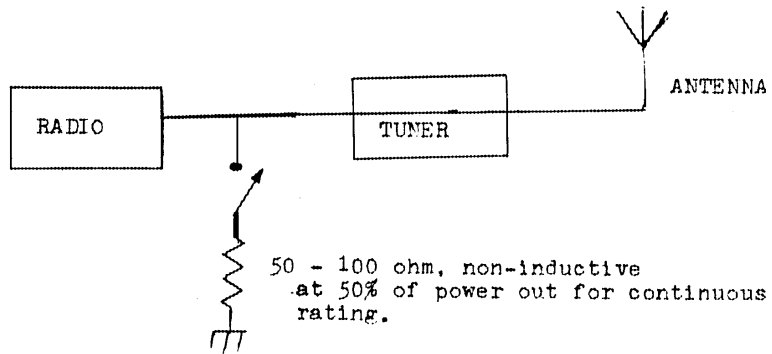
**BEFORE**



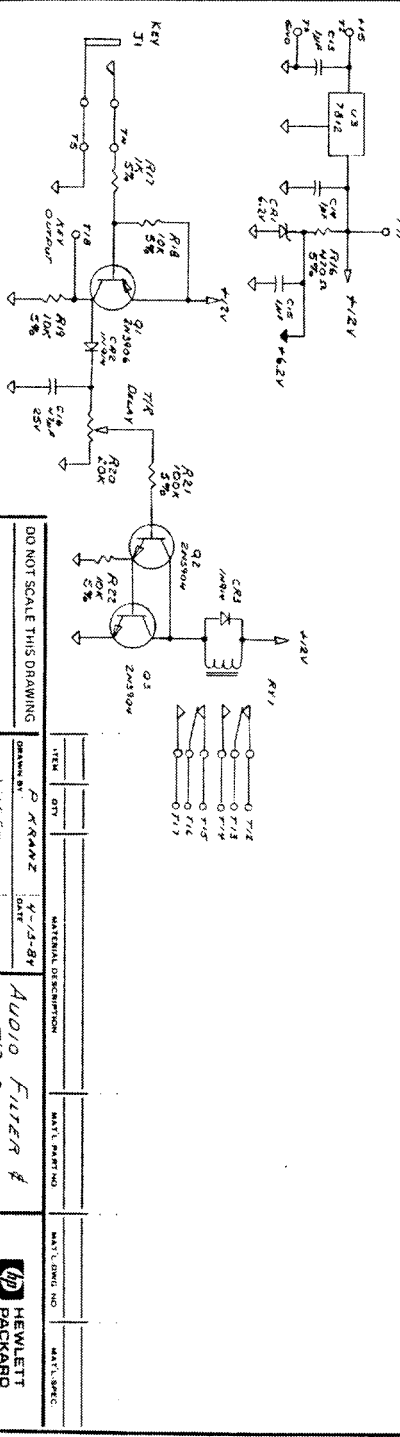
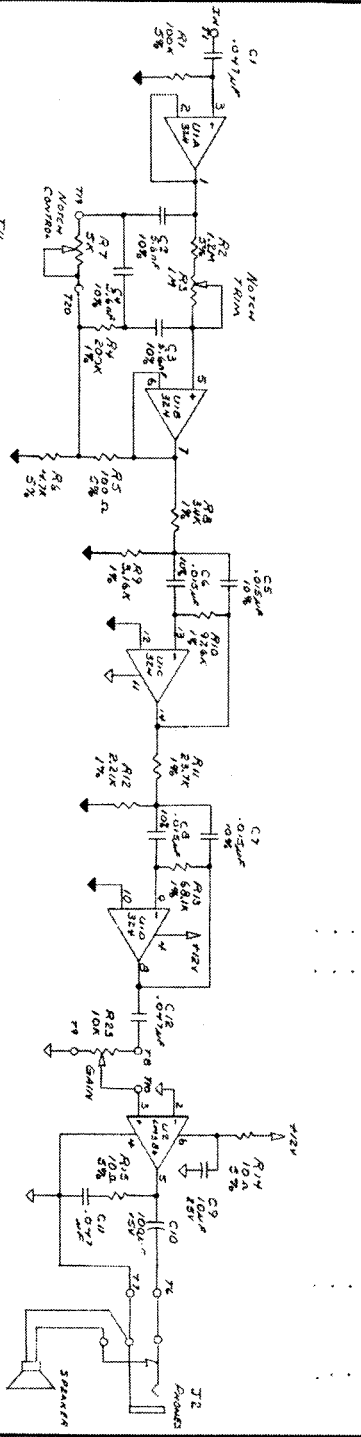
**AFTER**



2.



ENGINEERING RESPONSIBILITY															REVISED		APPROVED		DATE		
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	REVISED		APPROVED		DATE	
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47						
48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63						



DO NOT SCALE THIS DRAWING  
UNLESS OTHERWISE SPECIFIED.  
DIMENSIONS ARE IN INCHES.  
TOLERANCES: XX ± 0.005  
SEE COMP STD 001

DRAWN BY: P. KRANEZ  
DATE: 4-5-84

ENGINEER: W. L. C. T.  
RELEASE TO PROD: SUPERSEDES DWG

MATERIAL DESCRIPTION: Audio Filter #  
PART NUMBER: T7R SWITCH

FINISH: SCALE: B

MATERIAL NO. HEWLETT  
PART NO. PACKARD



**AUDIO FILTER AND T/R SWITCH**

From Paul Kranz, W1CFI  
26 Mettacomet Path  
Harvard, MA 01451

The simplicity, small size and low cost of DC receivers makes them very attractive to QRP'ers. Most of us who use them put up with the increased apparent QRM due to their double sideband detector which results in the same signal appearing in two places on the tuning dial. Also, most of the filtering which determines the passband of the DC receiver occurs in the audio frequency range. Filtering to narrow this passband is often inadequate or at the very least could use some improvement.

The addition of a tunable notch filter would help reduce the QRM from opposite sidebands as well as allow the attenuation of nearby QRO signals. While we are at it, a simple active bandpass filter could be added and would help reduce QRM, yet would not add many components for the advantages it would provide.

Some of the projects that we all work on seem to grow in stages so that we often wind up with separate transmitters and receivers with little thought given to transmit/receive switching. It is with these facts in mind that I designed and built a board containing a notch filter, active bandpass filter, audio amp and T/R switch as an add-on- to my DC receiver.

Referring to the schematic, U1A buffers the receiver signal and drives the input to the tunable notch filter, U1B. Here a little feedback from U1A improves the Q of the filter so that the notch has steeper sides and does not attenuate the desired signal as much as it might without the feedback. R3, notch trim, allows some compensation for imperfect notch components by allowing the notch Q to be optimized.

The notch is tuned with R7 and covers 400 Hz. to 1.5 KHz. The active filter, U1C and U1D have unity gain and a three dB bandwidth of 300 Hz. U2 is an LM386 power amplifier with more than enough gain and power output to drive a small speaker. Transmit/receive

switching is accomplished by RY1 and the transmitter keyed via the collector of Q1. Delay in the relay is provided by C16 and R20. R20 will allow a wide range of delays to be chosen. U3 is a three terminal regulator which provides regulated 12 volts and 6 volts to the op-amps.

**A SUPERHET TRANSCEIVER FOR 20 METERS**

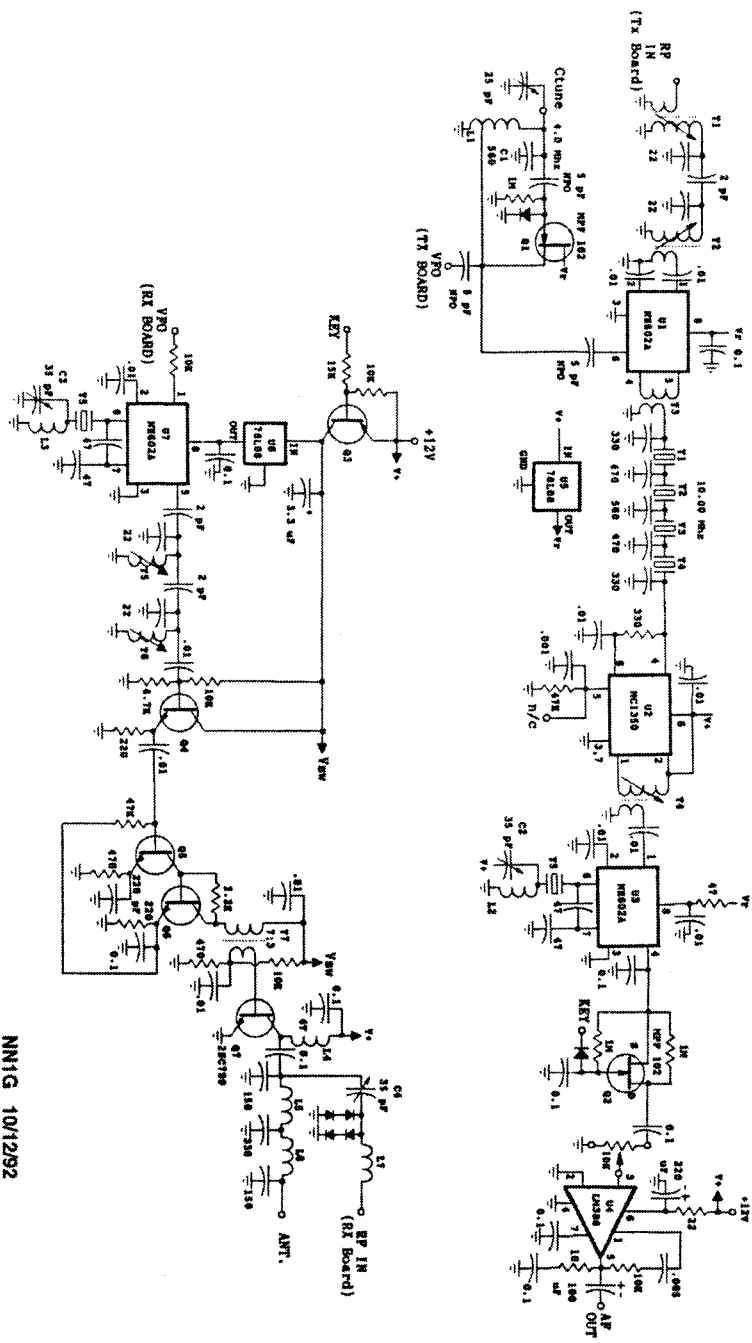
Dave Benson, NN1G  
80 E. Robbins Ave.  
Newington, CT 06111

This project evolved out of an interest in seeing how compact a superhet transceiver could be. While I don't claim that this rig is the ultimate in compactness (I know better), it combines small size with good performance.

The transceiver is built into a Ten-Tec TP-20 enclosure. The circuitry is laid out on a pair of 1.8" x 3.6" printed circuit boards, corresponding to the receiver and transmitter sections. If you're interested in duplicating this rig, write me for info on PC Boards and for parts layout sketches. Despite the obvious head start this gives the homebrewer, please note that this is not a beginner's project! There's still some gruntwork involved in chasing down parts and selecting crystals for the receiver filter. All parts are available through mail-order suppliers. There are no "junk box special" parts here.

The design is based on the past work of Rick Littlefield (K1BQT) with a few modifications. I wasn't happy with the AF muting characteristics, so I grafted in the W7EL popularized series FET audio switch to yield "seamless" QSK operations. In all fairness, the problem wasn't with the design itself, but with my dense layout. The IF amplifier stage (U2) amplifies and outputs a fair amount of BFO energy, which the product detector (U3) recovers as a DC component. The resulting "thump" when the IF amp is muted is tough to overcome, hence the need for the extra circuitry. In a well isolated layout the MC1350 AGC input pin may be used very successfully to provide smooth audio muting.

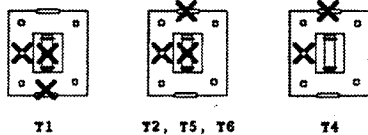
# A 20-meter Superhet transceiver



NN1G 10/12/92

(NN1C Transceiver Article)

Detail: Transformer modifications  
(bottom view)



Parts Sources:

1. KA7QJY Components, Box 3893,  
Logan, UT 84321
2. Houser Electronics  
(800) 992-9943 (catalog)
3. Radio Shack

Desig.	Description	Source
C1	560 pF 100V Silver Mica cap	1
C2-C4	5-35 pF Murata 6MM trim cap	1
L1	2.70 uH. 30 turns #30 on T-37-6, tapped at 4T.	1
L2-L4	6.7 uH. 11 turns #26 on FT-37-61	1
L5,L6	0.67 uH 11 turns #26 on T-37-2	1
L7	4.1 uH 32 turns #30 on T-37-2	1
Q1, Q2	MPF102 JFET	1
Q3	2N3906 PNP	1,2,3
Q4-Q6	2N2222 NPN metal	1,2
Q7	2SC1799	1
T1,2, T4-6	10.7 Mhz IF Xfmr 7MH, (see text and figure above)	1,2
T3	9T:3T on FT-37-43	1
T7	7T:3T on FT-37-43	1
U1,3,7	NE602A Mixer/Osc IC	1
U2	MC1350P IF Amp	1
U4	LM 388 AF Amp	1,2,3
U5,U6	78L08 3-term reg	1
Y1-Y6	10.00 Mhz HC-18/U Xtal (see text)	2

Notes:

- 1) 0.1 uF caps are ceramic disk, Digikey P4164.
- 2) All diodes are 1N4148 or equivalent.
- 3) Transmitter low-pass filter caps are 10X disk.

Building the crystal filter for this receiver on your own is surprisingly easy. I'd recommend getting 8-10 crystals (they're cheap) and building a "what have you" test oscillator. The four most closely grouped crystals of the lot (as monitored on a receiver or frequency counter) are the ones which go into the filter. By my casual reckoning, the passband is about 700 Hz. wide, and only the very strongest stations are audible on the other side of zero beat.

The receiver AF section is tailored to restrict the audio bandwidth to minimize hiss. The bypass cap on the output U3 and the network between pins 1 and 5 of U4 (thanks to Wayne, N6KR, for the tip) noticeably reduce high frequency noise. The LM 386 has another 20 dB of gain in reserve, but it wasn't needed for this design. Sidetone is provided by letting a portion of the recovered signal through to the AF amp during transmit.

The design uses 10.7 Mhz. IF transformers throughout, using the 7mm size to save board real estate. Each of the transformers is modified by snipping off the primary tap lead and one of the case leads as shown in the parts list figure. Since most of the transformers will be used above their design frequency, the built in capacitors are removed from the base (an Ex-Acto knife is the implement of choice). The capacitor in T4 is the exception is left intact.

The transmit mixer was taken from my recent VFO article (July '92 QRP Quarterly). The final amplifier uses a bit of DC biasing on its base to make it easier to drive, putting out about 1.5 watts. Any of a number of transistors should work well in this application -- including the 2N3553 or the 2N3866. Due to the compact layout, a half inch diameter "hat" style heat sink is used on the PA, and the heat sink is just warm after extended transmissions.

How does this little rig work? Although I am not a 20 meter fanatic, I've had good luck ragchewing with European and stateside stations with the occasional DX QSO thrown in. Signal reports range from honest 599s to "QRZ?" depending on band conditions. The results have been encouraging enough to tempt me to put up a real antenna for 20M. Who knows? Maybe DXCC is finally possible - I'd

counted on reaching it in the year 2163 at my present rate!

## MEMBERS' NEWS by BILL LEGGE, NT1R

Welcome to another edition of your members news. Please send your comments to me covering member activities and happenings in the ham community.

W1HZE, Charlie, comments, "At Boxboro, a portion of Greg's talk was given over to commercial rigs which are suitable for QRP work. I should like to add to his comments." "The Icom 735, 751, 725, 751A, and 761 all have a front panel control which controls the power output, and is so marked. As they came from the factory, the 735, 751, and 725 had about 10 watts out when that control was set to minimum value. The Icom add in QST for April 1989 tells how to adjust an internal pot so that the power output at the low end of the control can be whatever you choose to make it without affecting the high end. I pulled my 735 down to 4 watts output without any difficulty. The inference in the ad is that the 751A and the 761 are already at a satisfactory QRP level. The power output of a lot of Ten Tec equipment is also controlled by a front panel control marked "Drive". This control, however, is very coarse in that a very small amount of rotation will make a large excursion in power output and resetability is very difficult. It might be possible to replace that pot with a switch which would switch in resistive networks made of fixed resistors which would produce the desired output. This gets complicated, though, because it has been my experience that the setting of this Drive control is different for phone and for CW.

The winter meeting of QRP New England will be held at ARRL Headquarters in Newington, Ct. on January 16. Everyone should make an effort to attend. Would you like to work W1AW QRP?

The Club Tech Team is working on a 80 meter receiver to go with the 80 meter transmitter kit. Speaking of the 80 meter transmitter kit,

more kits will be available at the winter meeting.

Don't forget, the G-QRP Holiday QSO Party is Dec. 26 - Jan. 1, 1993 and the M-QRP CW contest on Jan. 2-3, 1200Z Saturday-2359Z Sunday.

Jim, W1FMR, reports Antennas West has a new informative catalog called, "Radio Adventure". It is full of interesting antennas like the full wave loop and a half square design.

Karen, AA1AH, took an MFJ 40 meter transceiver on an expedition to do research on the Gulf Stream. She made some MM contacts and wished that she had more free time for ham radio.

Dayton will be here before you know it. Myron Koyle, N8DHT, is in charge of room reservations. Bruce, KA1AFX, has been checking into the QRP-NE Monday night net with his homebrew SSB rig. It sounds great.

Dennis, N1GTA, checked into the QRP-ARCI NEN Net a few Saturdays ago using the NG1G design "Talking Staff" antenna. Dennis received a 579 report from W1FMR!

Andrew, KA1VYX and Carl, N1CUU recently completed an Advanced Class Upgrade Course offered in Derry, NH. The course was taught by Glen, WA1MHF & Don, N1AKS. KA1VYX is now operating /AA; N1CUU is now operating /AE. Both thank Don and Glen who they say were terrific instructors!

Millie What has told me the new Ten Tec and MFJ QRP rigs should be available next spring. She also hears that both Kenwood and Icom are coming out with new compact HF radios designed for mobile and portable use. See you next issue. 72/73

### OCEAN STATE ELECTRONICS FREE SHIPPING TO MEMBERS!

At Boxboro, Frank Pellicano offered QRP-NE members free shipping on orders placed with Ocean State. Please indicate that you are a QRP-NE Member when you order. Thank you Frank!

FRANK PELLICANO  
President

### OCEAN STATE ELECTRONICS ELECTRONIC DISTRIBUTORS

6 Industrial Dr.  
Westerly, RI 02891

800-866-6626  
401-596-3080  
Fax 401-596-3590

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HomeBrew Tuner  
HomeBrew SWR Bridge  
HomeBrew Keyer  
12 V. Gell Cell w/Charger  
Heath Pwr Supply 3 amp.  
Heath Memo-Matic Keyer  
All for \$285, or Swap.  
Dave Perrin, K1OPQ  
603 746 5090

### THE MILLIWATT FOR SALE

WA8MCQ has gathered together a complete run of the Milliwatt. He is offering to copy and bind them for interested QRP'ers. Cost for the complete run of the Milliwatt is \$25.00. UPS shipping is included for this price.

For those of you who do not know of the Milliwatt, it was one of, if not the pioneer QRP journals, running in the 70's with lots of good stuff for avid QRP'ers. Contact Mike at the address below if you are interested:

Michael A. Czuhajewski, WA8MCQ  
7945 Citadel Drive  
Severn, MD 21144

### FOR SALE

Ten Tec Argosy (Analog model). Comes with Power Supply, Mike, Filters. Rig is in very good condition. Please contact: Larry Spinak, KI2L, POB 845, Leominster, MA 01453

## QRP-NE FIELD DAY 1992 FINAL REPORT

By now you have probably seen the results in QST. We were fourth out of seven in 4A Battery, or 12th overall out of 137 entries in class 4A. Again, a nice showing for a dozen folk from a new club! By band and mode, the contacts and points break down as follows:

Band	CW QSOs	CW points	Phone QSOs	Phone points	Total QSOs	Total Points
80 m	102	1020	21	105	123	1125
40 m	131	1310	17	85	148	1395
20 m	123	1230	42	210	165	1440
15 m	137	1370	35	175	172	1545
10 m			9	45	9	45
Packet	108	1080			108	1080
V/UHF	5	50	49	245	54	295
<b>Total</b>	<b>606</b>	<b>6060</b>	<b>173</b>	<b>865</b>	<b>779</b>	<b>6925</b>

<b>Bonus Points:</b>	
Emergency Power	400
Message to Section Manager	100
WIAW Message	100
Natural Power QSOs	100
Packet	100
<b>Final Score</b>	<b>7725</b>

Somehow, the QST listing gave us 10 extra points although the QSO total is correct. Special mention is due anyone who can figure this out.

Thanks again to all who participated. Everyone there contributed in their own way to our successful showing. We all enjoyed the fellowship as much as the operating.

The site was excellent, with room to spread out and trees for those that wanted to use them. The view at night is spectacular and not too bad during the day either. I sent the Princeton Light Department Manager a thank you letter right after Field Day and told her we would likely come back in 1993.

However, looking at the logs, we definitely could have used more operators. I hope that with longer notice, more of you can join us next year. Why not mark your calendar on June 26th and 27th and come join us?

If you have comments based on your participation in 1992, or if you have some ideas based on other experiences, I would love to hear from you. In the next newsletter I will issue an official call for participation. We'll want coordinators for the several bands, and plenty of operators.

Finally, if W1FMR ever offers to lend you a pair of socks, check them carefully for snakes!

**72 and best wishes for the Holidays and 1993.  
Mark, NX1K, QRP-NE Field Day**

## QRP-NE WELCOMES NEW MEMBERS

W1DKY	R.BESSETTE, NE-127 COLRAIN, MA
N1MXO	BERT FLOWER, NE-128 ARLINGTON MA
KA1BQZ	DENNIS JOHNSON, NE-129 NASHUA, NH
KA9HNR	DANIEL BISINGER, NE-130 LOWELL, MA
NV1E	CHRIS KIRK, NE-131 SHREWSBURY, MA
NB1U	MARK JOHNSEN, NE-132 W.GREENWICH, RI
N1EXQ	JAMES ALLRED, NE-133 CAMBRIDGE, MA
NE1I	ROBERT RAYMOND, NE-134 NASHUA, NH
KW1L	PAUL ADLER, NE-135 FAIRFIELD, CT
KA1OW	DANIEL KINSELLA, NE-136 STOW, MA
WA6NCX	RICHARD FERRANTI, NE-137 ARLINGTON, MA
WB1GTK	FRANK PELLICANO, NE-138 WESTERLY, RI
WB2CPU	HOWARD CAHN, NE-139 BOSTON, MA
KC1WC	ROBERT EVANS, NE-140 STOW, MA
WA1VUU	JOHN FINN, NE-141 STAMFORD, CT
WA4BD	RONALD SMITH, NE-142 BRISTOL, CT
NT1G	SKIP FLEM, NE-143 FRAMINGHAM, MA
WN1A	JAMES CONGDON, NE-144 SUDBURY, MA
WB1FRH	ROBERT COREY, NE-145 DRACUT, MA
KD2IX	FRANK LAURI, NE-146 CARMEL, NY
K1VNT	JOHN SMITH, NE-147 WORCESTER, MA
WA1SCH	ROBERT GORMAN, NE-148 MILLIS, MA
KN1O	ALAN AMOS JR, NE-149 STOW, MA
KC1FB	JAMES FRANCOEUR, NE-150 NORWALK, CT
K1LGO	DENNIS MARANDOS, NE-151 NASHUA, NH
K1MBO	DAVID POTTER, NE-152 ACTON, MA
KB1NO	JOHN NUHIBIAN, NE-153 NORFOLK, MA
N1JIT	FAITH SENIE, NE-154 CLINTON, MA
WQ1Q	CHARLIE MACKINNON, NE-155 WARWICK, RI
N1MXN	STEVE TAYLOR, NE-156 WELLESLEY, MA
N1MQN	MICHAEL DAWSON, NE-157 DERRY, NH
N1FDP	CLIFFORD WHEELER, NE-158 ROCKPORT, MA
KA1EUX	JOHN ALLEN, NE-159 LEOMINSTER, MA
KB1NW	SCOTT CRANSTON, NE-160 MASON NH
WM1U	DEREK HOOK, NE-161 ROXBURY CT
K1BUB	ROBERT GRAVEL, NE-162 WESTFIELD MA
N1JDP	ROD BOWES, NE-163 AMHERST, NH
XX?XX	DAVE KARPIEJ, NE-164 FARMINGTON, CT